

Appendix A

Appendix A shows an alignment of SEQ ID NO:2 of the pending claims with the pepper cytochrome P450 polypeptide (NCBI GI No. 6739506). Conservative amino acid changes by an arrowhead on the top row. Amino acids identical among the two sequences are indicated with an asterisk (*) above the alignment; dashes are used by the program to maximize alignment of the sequences. The two motifs of Choe et al. (The Plant Cell (1998) 10: 231-243) appear underlined in the alignment.

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gi6739506    ME---IQFTN-LVAFLLFLSSIILLKKWKTKLNLPFGPWKLPFIGSLHHLAVAGPLPHHGLKNLAKLYGPLMHLRLGEIPTVISSPR
SEQ ID NO:2  MEQKNLSFPSILISFLLVLI-LVVMRLWKQ--NPPPGPWKFPIIGNLPHLLLTSDLGHERFRALAQIYGPVMSLQIGQVSAVVISSAE

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gi6739506    MAKEVLKTHDLAFATRPKLVVADIVHYDSTDIAFSPYGEYWRQIRKICILELLSAKMVKFFSSIRQDELSMMVSSIRTMPNFPVNLTDKI
SEQ ID NO:2  AAKEVMKTQADAFARPIVLDAQIVFYNRKDVLFASYGDHWRQMKKIWILEFLSAKKVQSSRLIREEMEDAITFLRSKAGSPVNITKII

      ^   ^   *^   *^*****^ *^*****^      ^   ^   *^* **   *****^*   *^   ^   ^   *^   *^*****^*****^ *^
gi6739506    FWFTSSVTCRSALGKICRDQDKLIIFMREIISLTGGFSIADFFPTWKMLHDVGGSKTRLLKAHRKIDEILEHVVNNEHKQNRADGQKGNGE
SEQ ID NO:2  YGIIISIMIRTSVGN-CKQKERLLSVADAVNEAATSFGTADAFPTWKLLHYIIGAESKPRRLHQEIDDILEEILNEHKANKP-----

      *   ^^^*^*****^   ^   *^*   ^^^*^*****^   ^^^*^*****^*^   ^   *   ^^^*^*****^ *   ***   *****^ *   ^   ^^^*^*****^
gi6739506    FGGEDLIDVLLRVRESGEVQISITDDNIKSILVDMFSAGSETSTTIIWALAEMMKKPSVLAKAQAEVRQVLKEKKGFQQIDLDELKYLK
SEQ ID NO:2  FEADNLMDVLLNLQKNGNVPVPVTNESIKASVLQMFTAGSETTSKATEWVMAELMKNPTLRKAQEVRQVFGEMGKVDESFRHDLKFFK

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gi6739506    LVIKETLRMHPIPLLVPRECKDKIDGYNIPFKTRVIVNAWAIGRPESWDDPESFSPERFENSSVDFLGSHHQFIPFGAGRRICPGM
SEQ ID NO:2  LVVKETLRLHPPV-VLIPRECRETTRIDGYEIHNPTRIVNAWAIGRPNTWSEPGKFNPERFKDCAIDYKGTTFELVPFFGAGKRICPGI

      ^^^*^   ^   ^*****^   *^^*   ^   ^   *****^ *   ^   ^*   **   *^*   *^*
gi6739506    LFGLANVGQPLAQLLYHFDRKLPNGQSHENLDMTESPGISATRKDDLVIATPYD-----P
SEQ ID NO:2  TSAITNLEYVIINLLYHFNWELADGITPQTLDMTEAIGGALRKKIDLKLIPYQVSLGSNIS
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